IN THE CLAIMS:

1. (Currently amended) A method for detecting, locating and visualizing UV emittance in an environment illuminated by at least one of daytime outdoor illumination and equivalent artificial indoor illumination, the method comprising:

simultaneously acquiring through a common aperture and ~~imaging~~ in a common optical axis a scene suspected of containing a source of UV emittance ~~at the same time~~ with two separate imaging units, a first solar blind UV (SBUV ~~240-280NM~~) imaging unit imaging in the SBUV ~~240-280NM~~ spectral band and comprising a solar blind filter and a UV photocathode, and a second, visible imaging unit imaging in the visible spectrum range; and

combining the images as obtained by said simultaneous imaging through a common aperture and in a common optical axis, by overlaying a first image obtained from said first imaging unit over a second image obtained from said second imaging unit thereby forming one combined and exactly registered visual image showing the UV emittance in its exact position within background scenery of the scene and with no parallax.

2. (Previously presented) A method according to claim 1 wherein the combining of said first and second images is carried out by optical combining means, allowing viewing of the combined visual image.

3. (Previously presented) A method according to claim 1 further comprising transferring the combined visual image into electronic recording and/or displaying means for recording and/or displaying the combined visual image.

4. (Original) A method according to claim 3 wherein the electronic recording and/or displaying means is a videotape and a video monitor.

5. (Cancelled)

6. (Currently amended) A method according to claim 1 further comprising, first acquiring an image of the scene to obtain an acquired image having a spectrum spanning at least the visible spectrum range and the SBUV ~~240-280NM~~ spectral band of the scene, and then separating the spectrum of the acquired image, wherein an UV spectrum of the acquired image in the SBUV ~~240-280NM~~ spectral band is transferred into said first SBUV ~~240-280NM~~ imaging unit, and the acquired image in the visible spectrum range is transferred into said second visible imaging unit.

7. (Cancelled).

8. (Currently amended) Apparatus for detecting, locating and visualizing UV emittance in an environment illuminated by at least one of daytime outdoor illumination and equivalent artificial indoor illumination, comprising:

image acquiring means with two separate imaging units, for acquiring through a same aperture of the apparatus and along ~~from~~ a common optical axis an image of a scene, the image spanning at least a visible spectrum and a Solar Blind UV (SBUV ~~240-280NM~~) spectrum, and for simultaneously providing a first image from the scene into an SBUV ~~240-280NM~~ imaging unit, and a second image from the scene into a visible imaging unit;

said SBUV ~~240-280NM~~ imaging unit comprising:

a. a solar blind ultraviolet optical filter allowing transmittance of optical radiation in a solar blind UV spectrum range only, and absorbing optical radiation in all other spectral regions;

b. SBUV ~~240-280NM~~ image providing means comprising a photocathode for receiving the optical radiation in the ~~solar blind~~ UV spectral ~~spectrum~~ range only, passed through said solar blind ultraviolet optical filter, and producing ~~providing~~ a first visual ~~visible~~ image, being a solar blind UV image;

said visible imaging unit receiving said second image of the scene from the image acquiring means, and producing ~~providing~~ a second visible image, representing visible background scenery of the scene; and

combining means for receiving the first visual ~~visible~~ image from the SBUV ~~240-280NM~~ imaging unit and the second visible image from the visible imaging unit, and combining, by overlaying said first visual ~~visible~~ image over said second visible image thereby producing one combined and exactly registered visual image showing the UV emittance in its exact position within the background scenery with no parallax.

9. (Currently amended) Apparatus according to claim 8 wherein the image acquiring means comprises two image acquiring elements, a first element providing the first image of the scene into the SBUV ~~240-280NM~~ imaging unit, and a second element providing the second image of the scene into the visible imaging unit.

10. (Previously presented) Apparatus according to claim 9 wherein the first and second elements incorporate optical lenses.

11. (Currently amended) Apparatus according to claim 8 wherein the solar blind ultraviolet optical filter is positioned one of before an optical lens of the SBUV ~~240-280NM~~ imaging unit, after the optical lens of the SBUV ~~240-280NM~~ imaging unit, and incorporated within the optical lens of the SBUV ~~240-280NM~~ imaging unit.

12. (Currently amended) Apparatus according to claim 8 wherein the image acquiring means comprises a beamsplitter receiving optical beams from the scene along said common optical axis, and splitting the received optical beams so that the beams spanning at least the SBUV ~~240-280NM~~ spectrum are directed towards the SBUV ~~240-280NM~~ imaging unit and the beams spanning at least the visible spectrum are directed towards the visible imaging unit.

13. (Original) Apparatus according to claim 12 wherein the beamsplitter is a dichroic beamsplitter.

14. (Currently amended) Apparatus according to claim 8 wherein the SBUV ~~240-280NM~~ imaging unit further comprises a first lens receiving the radiation in the solar blind UV

spectrum range passing through the solar blind ultraviolet optical filter, and producing the solar blind UV image of the scene, wherein the scene is suspected of containing a source of UV emittance.

15. (Currently amended) Apparatus according to claim 14 wherein the SBUV~~-240-280NM~~ image providing means further comprises a SBUV~~-240-280NM~~ image sensor located at an image plane of the first lens, said SBUV~~-240-280NM~~ image sensor creates a visual ~~visible~~ image of the solar blind UV image of the scene.

16. (Currently amended) Apparatus according to claim 15 wherein the SBUV~~-240-280NM~~ image sensor contains a fluorescent screen.

17. (Currently amended) Apparatus according to claim 15 wherein the SBUV~~-240-280NM~~ image sensor is a UV solar blind image intensifier.

18. (Currently amended) Apparatus according to claim 15, wherein the SBUV~~-240-280NM~~ image sensor is selected from among a group of sensors consisting of ~~CMOS,~~ CCD, BCCD, EBCCD, ICCD, MCP-PMT having multianode, and MCP-PMT having position sensitive anode output, for producing first electronic signals describing said UV image.

19. (Currently amended) Apparatus according to claim 8 wherein the combining of the first visual ~~visible~~ image of the solar blind UV range of the scene and the second visible image is carried out by a beamsplitter simultaneously receiving said first and second ~~visible~~ images.

20. (Currently amended) Apparatus according to claim 8, wherein the visible imaging unit comprises an image sensor selected from among a group of sensors consisting of CCD, CMOS, and CID, receiving said second visible image from the scene, and producing second electronic signals describing said second visible image.

21. (Currently amended) Apparatus according to claim 8, wherein the combined visual image is obtained by at least one of arithmetic mixing, non-arithmetic mixing, luminance keying and chroma keying, for combining first and second electronic signals representing the first and second ~~visible~~ images, respectfully.

22. (Original) Apparatus according to claim 8 further comprising electronic recording and/or displaying means for recording and/or displaying the combined visual image.

23. (Previously presented) Apparatus according to claim 22 wherein the electronic recording and/or displaying means is a videotape or a video monitor.

24. (Currently amended) Apparatus according to claim 8 wherein the visible imaging unit comprises only passive optical elements and the SBUV ~~240-280NM~~ imaging unit comprises passive optical elements and a UV image intensifier, wherein both said visible and SBUV ~~240-280NM~~ separate imaging units acquire their images from said common optical axis and both apply same effective magnification.

25. (Original) Apparatus according to claim 24 made in a monocular form.

26. (Original) Apparatus according to claim 24 made in binocular form.

27. (Original) Apparatus according to claim 8 further comprising stills camera means for recording the combined visual image on a stills camera film.

28. (Previously presented) Apparatus according to claim 21 further comprising a processing unit for processing at least one of the first and second electronic signals for at least one of improving the contrast between the image of the UV emittance and the background scenery in the combined visual image, for the elimination of noise, the identification of UV emitters in the scene, and the capture of transient UV events in the scene.

29. (Original) Apparatus according to claim 28 wherein the processing unit is a digital processing unit.

30. (Original) Apparatus according to claim 28 wherein the processing unit is an analog processing unit.

31. (Previously presented) Apparatus according to claim 28 further comprising means for providing an alarm as to the detection of UV emittance which is above a predefined threshold level.

32. (Previously presented) Apparatus according to claim 28 further comprising means for initiating action as to the detection of UV emittance which is above a predefined threshold level.

33. (Previously presented) Apparatus according to claim 32 wherein the action is initiation of fire extinguishing means.

34. (Previously presented) Apparatus according to claim 32 wherein the action is documentation of UV emitting events in the scene.

35. (Currently amended) A method of detecting, locating, and visualizing emittance of UV sources and emittance of IR scenery ~~sources~~ in a common scene suspected of containing a source of UV emittance comprising:

simultaneously imaging through a same aperture and in a common optical axis the scene and its IR background scenery with two separate imaging units, a first solar blind UV (SBUV ~~240-280NM~~) imaging unit imaging in the SBUV spectral band and comprising a solar blind filter and a UV photocathode for ~~allowing only transmittance of UV emissions and being suitable of visually~~ forming and displaying an image of ~~images from~~ said UV emissions, and a second IR imaging unit for ~~being suitable of~~ visually forming and displaying an image of the ~~images from~~ IR ~~emissions~~ scenery; and

combining the images as obtained by said simultaneous imaging in a common optical axis, by overlaying the image formed by said SBUV~~-240-280NM~~ imaging unit over the image formed by said IR imaging unit, thereby forming one combined and exactly registered visual image showing the UV emittance and the IR emittance in their exact positions within the scenery with no parallax.

36. (Previously presented) A method according to claim 1, wherein the UV emittance is caused by electrical discharge.

37. (Previously presented) Apparatus according to claim 8 wherein the UV emittance is caused by electrical discharge.

38. (Previously presented) A method according to claim 1, wherein the UV emittance is emittance caused by combustion.

39. (Previously presented) Apparatus according to claim 8 wherein the UV emittance is emittance caused by combustion.

40. (Previously presented) A method according to claim 1, for locating and tracking objects which are provided with a light source emitting UV radiation.

41. (Previously presented) Apparatus according to claim 8 for locating and tracking objects which are provided with a light source emitting UV radiation.

42. (Previously presented) A method according to claim 1, for imaging and monitoring phenomena that produce UV emission.

43. (Previously presented) Apparatus according to claim 8 for imaging and monitoring phenomena that produce UV emission.

44. (Original) A method according to claim 42 wherein the phenomenon is a Cherenkov radiation.

45. (Original) Apparatus according to claim 43 wherein the phenomenon is a Cherenkov radiation.

46. (Original) A method according to claim 42 wherein the phenomena produce transient UV emissions.

47. (Previously presented) Apparatus according to claim 43 wherein the phenomena produce transient UV emissions.

48. (Previously presented) A method according to claim 1 for visual imaging of reflections from objects illuminated by UV light sources.

49. (Previously presented) Apparatus according to claim 8 for visual imaging of reflections from objects illuminated by UV light sources.

50. (Original) A method according to claim 48 wherein the objects illuminated by the UV sources are finger prints or fluid stains.

51. (Original) Apparatus according to claim 49 wherein the objects illuminated by the UV sources are finger prints or fluid stains.

52. (Cancelled).

53. (Previously presented) A method according to claim 35, wherein the UV emittance is caused by electrical discharge.

54. (Previously presented) A method according to claim 35, for detecting UV emittance from combustion.

55. (Previously presented) A method according to claim 35, for locating and tracking objects which are provided with a light source emitting UV radiation.

56. (Previously presented) A method according to claim 35, for imaging and monitoring phenomena that produce UV emission.

57. (Previously presented) A method according to claim 35 for visual imaging of reflections from objects illuminated by UV light sources.

58. (Cancelled).

59. (Currently amended) Apparatus according to claim 8, wherein the image acquiring means comprises an optical lens which acquires SBUV~~-240-280NM~~ and visible light beams from said common optical axis and transmits the SBUV~~-240-280NM~~ light beams spanning the UV image towards the SBUV~~-240-280NM~~ imaging unit, and a mirror in front of a central portion of said lens, for reflecting light in the visible spectrum towards the visible imaging unit.